

Week No.	Week of...	Lecture reference (Griffiths)	Topic	Problem Set No.	Due 5 PM on...
1	27-Aug	1.1.5, 1.3.2-1.3.6 1.4-1.6 2.1-2.2.3	Vector and tensor transformations, fundamental theorems Curvilinear coordinates, Dirac delta function, theory of vector fields Electrostatic fields, Gauss's law		
2	3-Sep	2.2.4-2.3 2.4, 2.5.1	LABOR DAY Electrostatic potential and boundary conditions Electrostatic work and energy, conductors	1	7-Sep
3	10-Sep	3.1.1-3.1.4 3.1.5, 3.2.1-3.2.2 3.3.1	Laplace's and Poisson's equation, simple and relaxation solutions Uniqueness of solution, method of images Separation of variables in Cartesian coordinates	2	14-Sep
4	17-Sep	3.4.2, 3.4.4 4.1-4.2.1 4.3-4.4.1	Ideal electric dipole and its field Forces and torques on electric dipoles; polarization Gauss's law in dielectrics, \mathbf{D} , linear dielectrics	3	21-Sep
5	24-Sep	4.4.3-4.4.4 5.1.1-5.1.2 5.1.3	Energy in dielectrics, forces on dielectrics Lorentz force law, particle trajectories in static fields Current, forces on wires, current densities; charge conservation	4	28-Sep
6	1-Oct	5.2, 5.3.1-5.3.2 5.3.2-5.3.4 5.4.1-5.4.2	Biot-Savart law, divergence of \mathbf{B} Ampere's law and applications, static Maxwell equations Vector potential, magnetostatic boundary conditions	5	5-Oct
7	8-Oct	5.4.3 6.1.1-6.1.2, 6.1.4 6.3, 6.4.1	Ideal magnetic dipole and its field Forces and torques on magnetic dipoles; magnetization Ampere's law in magnetic materials, \mathbf{H} , linear magnetic media		
8	15-Oct (16-Oct)	--- --- 6.4.2	TBA MIDTERM 1 (covers PS 1-5), in 4 LeConte Ferromagnetism	6	19-Oct
9	22-Oct	7.1 7.2.1-7.2.2 7.2.3-7.2.4	Ohm's law, EMF Faraday's law Energy in magnetic fields, inductance	7	26-Oct
10	29-Oct	7.3.1-7.3.3 7.3.5-7.3.6 10.1	Maxwell's equations in free space Maxwell's equations in matter, boundary conditions Maxwell's equations for potentials; gauge transformations	8	2-Nov
11	5-Nov	8.1.1-8.1.2 9.1.1-9.1.2 9.2	Continuity equation, Poynting's theorem Wave equation in one dimension, general solution, sinusoidal waves EM waves in vacuum, energy and momentum		
12	12-Nov (13-Nov)	--- --- 9.3.1-9.3.2	VETERANS DAY MIDTERM 2 (covers PS 1-8), in 50 Birge EM waves in a linear insulator, reflection at normal incidence		
14	19-Nov (22-Nov)	11.1.1-11.1.2 11.1.1-11.1.2 ---	EM fields of an oscillating electric dipole Electric dipole radiation and power THANKSGIVING	9	20-Nov
13	26-Nov	9.1.4 9.4.1-9.4.2 9.5.1, 9.5.3	Polarization and angular momentum of EM waves; how to control EM waves in a conductor, reflection at normal incidence EM waves in a coaxial cable	10	30-Nov
15	3-Dec	--- --- ---	Interference and coherence of >1 dipole radiator Radiation pattern from >1 dipole and connection to diffraction (Babinet) TBA	11	7-Dec
16	10-Dec (12-Dec) (12-Dec)	--- --- 8-11 AM	Final exams begin 110A FINAL EXAM (Group 1) (covers PS 1-12)		